# Perbedaan penambahan berbagai dosis arang aktif pada chlorine diffuser terhadap lama hari efektif sisa chlor air sumur gali di dusun Kasuran, Margodadi, Seyegan, Sleman

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Pengamanan dan pengamatan kualitas air merupakan upaya untuk melindungi pengguna air dari gangguan kesehatan. Salah satu usaha peningkatan kualitas air antara lain pembubuhan kaporit mengunakan chlorine diffuser dengan dosis yang tepat.Hasil pemeriksaan sampel bakteriologis aier sumur gali oleh petugas Seyegan mengandung MPN Coliform lebih dari 2400 per 100 ml sampel serta sifat arang aktif yang dapat meyerap bau, rasa, dan warna. Berdasarkan hal tersebut perlu dilakukan desinfeksi menggunakan chlorine diffuser dengan penambahan berbagai dosis arang aktif. Tujuan penelitian ini untuk mengetahui perbedaan penambahan berbagai dosis arang aktif pada chlorine diffuser terhadap lama hari efektif sisa chlor pada air sumur gali selama dilakukan chlorinasi. Penelitian ini adalah penelitian quasi eksperimen, dengan desain post test only. Populasi penelitian, air sumur gali di dusun kasuran, Margodadi, Seyegan Slemam. Sampel penelitian, air dari 9 buah sumur gali yang diambil dengan metode purposive sampling. Untuk mengetahui perbedaan penambahan berbagai dosis arang aktif terhadap lama hari efektif sisa chlor dilakukan uji Anova satu jalan dilanjutkan uji least significan difference (LSD)untuk menentukan dosis arang aktif yang efektif.Sampel yang diberi perlakuan dengan penambahan dosis arang aktif 25% pada chlorine diffuser menghasilkan rata-rata lama hari efektif sisa chlor terbesar yaitu 11,67 hari, penambahan disis 50% selama 7 hari dan dosis 75% selama 4,67 hari. Berdasarkan hasil uji satistik didapat F rasio sebesar 31,182 dengan derajat kebebasan 2 dan 6, diperoleh signifikasi 0,001. nilai ini lebih kecil dari alfa = 0,005 berarti ada perbedaan lama hari efektif sisa chlor air sumur gali pada penambahan berbagai dosis arang aktif pada chlorine diffuser. Hasil uji LSD penambahan dosis 25% dan 50% nilai probabilitas sebesar 0,002, dosis 25% dan 50% sebesar 0,000 serta dosis 50% dan 75% sebesar 0,041. Penambahan arang aktif 25% pada chlorine diffuser mampu menghasilkan sisa chlor antara 0,1-0,3 ppm selama 11, 67 hari. Penelitian lanjutan dapat dilakukan tentang jumlah luas permukaan lubang pada chlorine diffuser baik tabung luar maupun dalam yang paling efektif memberikan dalam memberikan sisa chlor pada air sumur gali.

**Kata Kunci:** Arang aktif, lama hari efektif sisa chlor, chlorine diffuser, sumur gali

# The difference adding variety of carbon active concentration in chlorine diffuser to effective day length of chlor residual in dug well water at Kasuran village, Margodadi, Seyegan, Sleman

The security precautions and determining of water quality are efforts to protect water users from health disorder. One of efforts to protect water quality is chlorine giving by using chlorine diffuser with appropriate dose. The treatment result of bacteriological sampel of dug well water by the official of Seyegan public health center contains MPN coliform more than 2400 per 100 ml samples and the characteristics of carbon active that can absorb smell, taste and colour. Based on this fact it is necessary to conduct desinfection using chlorine diffuser by the increasing difference of any carbon active dose in chlorine diffuser. against the effective day length of chlor residual in dug well water during chlorination. Kind of this research is quasy experimental research with pos test only design. Reserach population is water of dug well at Kasuran viilage, Margodadi, Seyegan, Sleman.Research sampel, water from 9 dug well taken by purposive sampling. In order to know increasing difference of any carbon active dose against the effective day length of chlor residual. One way Anova test followed by least significant difference was conduct to determine an effective carbon active dose. Sample given treatment by the dose increasing of carbon active 25% in chlorine diffuser produced the biggest average of effective day length of chlor residual, that is 11,67 days, the dose increasing of 50% for 7 days, and dose of 75% for 4,76 days. Based on the statistical test result, it is obtained 0,001 signification. This value is smaller than alfa = 0,05, this mean that there is a difference of effective day length of chlor residual of dug well water in the increasing of any carbon active in chlorine diffuser. The result of LSD test in dose increasing 25% and 50% the probability value is in the amount of 0,002, dose of 25% and 75% are in the amount of 0,000 and dose 50 and 75% are in the amount of 0,041. The increasing of active carbon 25% in chlorine diffuser is able to produce chlor residual concerning about the number of chlorine diffuser which is the most effective in giving chlor residual between 0,1-0,3 ppm for 11,67 days. Follow-up research can be carried out concerning about the number of chlorine diffuser which is the most effective in giving chlor residual in dug well water,and the incresing of water desinfection socialization by adding carbon active in chlorine diffuser by the official of Seyegan public health center

Keyword : Carbon active, effective day length of chlor residual, chlorine diffuser, dug well